CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF GRADATION FOR GSB
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2017-06-23-01** **Date: 26-06-17**
Customer	:	Asisstant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads & Drains Construction of RCC Drain at Janatha Colony, Chikkasandra in ward no.12 in Shettyhalli Sub Division.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th Cross,17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010.
Customer Reference	:	BBMP/EE/DD/WO/120/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	23-06-17
Sample ID No	:	2017-06-23-01-01
Type of Mix	:	GSB (Granular Sub Base)
Date of test	:	24-06-17
Oven Dry Weight	:	10120 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Spec. Limit Vide Table 400.1 MORTH Specification
75	0	0	0	100	100
53	996	996	9.84	90.16	80-100
26.5	1686	2682	26.50	73.50	55-90
9.5	1292	3974	39.27	60.73	35-65
4.75	1490	5464	53.99	46.01	25-55
2.36	1764	7228	71.42	28.58	20-40
0.425	1666	8894	87.89	12.11	10-25
0.075	896	9790	96.74	3.26	0-5

TESTS ON FILLER SCREEN MATERIALS

Sl no	Particulars	Test results	Spec.Limit Vide Table 400.2 MORTH Specification
1	Liquid Limit, %	22.33%	Maximum 25
2	Plasticity index, %	Non plastic	Maximum 6

Note:-
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Samples will be disposed after 30 days from the date of issue of test certificate

CIVIL Pro BANGALORE Sig..... Date.....

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Prepared By:
Harshitha

AE-12

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

End of Report

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-06-27-04** **Date: 26-07-17**
Customer	:	Asisstant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads & Drains Construction of RCC Drain at Janatha Colony, Chikkasandra in ward no.12 in Shettyhalli Sub Division.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th Cross,17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010.
Customer's Reference	:	BBMP/EE/DD/WO/120/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-06-17
Sample ID No	:	2017-06-27-04/01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	28-06-17

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	40.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	54.5N/mm^2	Not less than 53 N/mm^2

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Harshitha

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2017-06-27-04** **Date: 29-06-17**
Customer	:	Asisstant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads & Drains Construction of RCC Drain at Janatha Colony, Chikkasandra in ward no.12 in Shettyhalli Sub Division.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th Cross,17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010.
Customer's Reference	:	BBMP/EE/DD/WO/120/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-06-17
Sample ID No	:	2017-06-27-04/01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	28-06-17

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.75	–
2	Finess by Air permeablity method (m^2/kg, Min)	279.5	225m^2/kg, Min
3	Density (gm/cc)	3.25	–
4	Standard Consistency (%)	29.0%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	275 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2mm	Not more than 10 mm

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ಎಸ್.ಎಂ. ರಸ್ತೆ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-06-27-04** **Date: 30-06-17**
Customer	:	Asisstant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads & Drains Construction of RCC Drain at Janatha Colony, Chikkasandra in ward no.12 in Shettyhalli Sub Division.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th Cross,17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010.
Customer's Reference	:	BBMP/EE/DD/WO/120/2017-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	27-06-17
Sample ID No	:	2017-06-27-04/02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	27-06-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	342	342	2.3	97.7	90-100
3	20 mm	5780	6122	40.8	59.2	30-70
4	10 mm	4253	10375	69.2	30.8	10-35
5	4.75 mm	4222	14597	97.3	2.7	0-5
6	Pan	403	15000	100.0	0.0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-06-27-04** **Date: 30-06-17**

Sample ID No : 2017-06-27-04/02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.6	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.5	
3	Specific Gravity	2.69	–
4	Bulk Density(Loose) (Kg/l)	1.57	–
5	Bulk Density(Compacted) (Kg/l)	1.61	–
6	Water Absorption(%)	0.22	–

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Prepared by
Harshitha

AE-12

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ಯಶವಂತಪುರ, ಬೆಂಗಳೂರು

****End of Report****

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2017-06-27-04** **Date: 30-06-17**
Customer	:	Asisstant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to Roads & Drains Construction of RCC Drain at Janatha Colony, Chikkasandra in ward no.12 in Shettyhalli Sub Division.
Agency	:	Technical Manager (West), KRIDL, Project Implementation Unit, No.280, 59th Cross,17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560010.
Customer Reference	:	BBMP/EE/DD/WO/120/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-06-17
Sample ID No	:	2017-06-27-04/02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	27-06-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	322	322	6.4	93.6	90-100
3	10 mm	2543	2865	57.3	42.7	25-55
4	4.75 mm	1890	4755	95.1	4.9	0-10
5	Pan	245	5000	100	0	_

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-06-27-04** **Date: 30-06-17**

Sample ID No : 2017-06-27-04/02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.8	
3	Specific Gravity	2.69	–
4	Bulk Density(Loose) (Kg/l)	1.49	–
5	Bulk Density(Compacted) (Kg/l)	1.53	–
6	Water Absorption(%)	0.21	–
7	Aggregate crushing Value(%)	24.2	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.6	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು-೫೬೦೦೦೩

CIVIL PRO Sig. Date BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signature
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com